nities through the utilization of allied health professionals. **METHODS:** Two local CPHHD programs with prospective randomized controlled trial designs (a virtual team care intervention aimed at reducing depressive symptoms in older adults with depression and cardio-metabolic syndrome, and a patient navigator program to increase mammography screening for breast cancer) provided the underlying data for this analysis. The programs collected detailed resource use data along with several clinical measures. Costs were measured from a payer perspective. The navigator program involved in-person or remote navigator consultations, and costs were based on a wage rate of $15 per hour. The depression program involved multiple services and all costs reflected institution-specific billing data. **RESULTS:** There were 949 patients in the patient navigator intervention. On average, these patients received 8.28 minutes of navigator services per patient over the phone and 1.23 minutes via in-person visits, translating to a per-patient cost of $2.38. For the six patients enrolled in the team care intervention for depression, resources used included social worker case management and individual psychotherapy, translating to program costs of $145 per patient over 12 months. Spillover health care service costs were similar between the intervention and control groups (intervention = $55 per patient, control = $64 per patient). **CONCLUSIONS:** Costs are an important consideration for evaluating pilot, team-care based interventions to improve patient health. The two programs evaluated here offer insight into the potential impact of interventions that employ allied health professionals and demonstrate a relatively low cost per patient. Future work will examine these costs in comparison with measured effects of the program.

PCN63

ASSESSING THE BURDEN OF CAREGIVING FOR PATIENTS WITH LUNG CANCER IN EUROPE

Goren A[1], Gilloteau I[2], Penrod JR[2], Jassem J[3]

[1]*Kantar Health, New York, NY, USA,* [2]*Bristol-Myers Squibb, Princeton, NJ, USA,* [3]*Medical University of Gdansk, Gdansk, Poland*

OBJECTIVES: To investigate the self-reported burden imposed by care of lung cancer (LC) patients in the European Union (EU). **METHODS:** The study included respondents to the 2010 and 2011 EU National Health and Wellness Survey from France, Germany, Italy, Spain, and the UK who reported being caregivers for a relative with LC versus respondents who did not report being caregivers for a relative with any condition (control). Outcome measures included Short Form (SF)-6D health state utilities and mental and physical health status (all derived from the SF-12v2), stress-related comorbidities, health care resource use during the past 6 months, and work/activity impairment during the past week using the Work Productivity and Activity Impairment (WPAI) questionnaire. Productivity losses were converted into costs using the human capital method by applying median hourly wages per country (from Eurostat 2006 personal income inflated to 2010) to the total number of hours lost using results from WPAI. Multivariable analyses were used to test the potential impact of LC patient caregiving on health care resource use and work/activity impairment, as well as costs specifically associated with work impairment. **RESULTS:** A total of 107 caregivers for patients with LC and 103,868 non-caregivers were identified. Compared with non-caregivers and adjusting for covariates, caregivers had higher mean levels of impaired presenteeism (27.1% vs. 14.8%), overall work impairment (32.4% vs. 18.0%), and activity impairment (32.8% vs. 21.8%; all $p<0.005$); higher odds of impact across all measures of the WPAI including absenteeism (all $p<0.01$); and higher annual costs associated with impaired presenteeism (€5,672 vs. €3,429) and overall work impairment (€6,905 vs. €4,147; both $p<0.05$). Health care resource utilization and mean level of absenteeism did not differ significantly. **CONCLUSIONS:** LC patient caregiving in the EU is associated with significantly higher work/activity impairment and related costs relative to non-caregivers. Costs associated with LC caregiver burden deserve further attention.

PCN64

DIRECT MEDICAL COSTS (DMC) OF TREATING CHRONIC LYMPHOID LEUKEMIA (CLL) PATIENTS IN THE PUBLIC HEALTH CARE SYSTEM IN BRAZIL: RESULTS FROM A RETROSPECTIVE ANALYSIS OF AN ADMINISTRATIVE DATABASE

Asano E, Pereira ML

Janssen-Cilag Farmaceutica, Sao Paulo, Brazil

OBJECTIVES: To determine direct medical costs of treating patients with Chronic Lymphoid Leukemia (CLL) from the Brazilian Public Healthcare System perspective. **METHODS:** A retrospective longitudinal analysis of the Government administrative claims database (Datasus) was performed. Eligibility criteria were patients starting CLL (ICD-10 code C911) chemotherapy from Jan/2008 to Dec/2011, with complete information and no inconsistency in date of birth, gender. Outpatient and inpatient databases were combined through deterministic linkage. Outcome was direct medical costs (DMC), calculated as the sum of the medical claims for each patient included in the analysis, for a maximum period of 5 years or death or loss of follow-up, whichever comes first. DMC was categorized in chemotherapy, hospitalizations, and other outpatient costs. **RESULTS:** From 5100 patients with CLL identified in the database, 613 met eligibility criteria. Median follow-up time was 25 months. This population cohort had 54% males with average age at start of treatment of 66.4 ± 11.7 years. Patients received an average of 12.0 ± 9.4 months of chemotherapy treatment, with 71% of them treated by one type of chemotherapy regimen. Total DMC in this population was R$ 7,021,631.48 (average cost of R$ 6,404.52 ± 6,133.37 per patient-year), from which R$ 5,384,552.12 (77%) are related to chemotherapy, R$ 1,062,978.98 (15%) to hospitalizations and R$ 574,100.38 (8%) to other outpatient costs. Outpatient laboratory exams accounted for 6% (R$ 397,050.07) of total DMC. 30 (5%) patients underwent radiotherapy treatment, with total costs of R$ 53,944.96 (<1% of DMC). A total of 862 hospitalizations were identified in 287 (46.8%) patients, with an average cost of R$ 1,233.15 ± 3,879.86 per hospitalization. **CONCLUSIONS:** Patients with CLL represent a significant economic burden to the public health system. Chemotherapy and hospitalization costs accounts for more than 90% of the total costs.

PCN65

REAL WORLD MANAGEMENT AND COSTS IN UNRESECTABLE METASTATIC MELANOMA (MM) PATIENTS: UPDATE OF A PILOT STUDY BASED ON AN INSTITUTIONAL PATIENT REGISTRY

Strens D[1], Specenier P[2], Peeters M[2]

[1]*Realidad, GRIMBERGEN, Belgium,* [2]*University Hospital Antwerp, Edegem, Belgium*

OBJECTIVES: To assess the management and associated lifetime costs in MM patients as from the diagnosis of unresectable metastatic disease until death. **METHODS:** A retrospective patient chart review was performed at the Antwerp University Hospital to obtain data on medical consumption related to the management of unresectable MM (uMM). A complete registry of all melanoma patients who visited the hospital between 2007 and May 2013 was compiled. Eligible for this retrospective chart review were patients with uMM with sufficient data available and who deceased before May 2013. Data on demographics, disease characteristics and management of uMM were collected. Direct costs were calculated by multiplying each item of resource use with its unit cost (2013, €) using the Belgian public health care payer's perspective (PHCP) and patient's perspective. Average (bootstrap 95%CI) overall costs per patient were calculated. **RESULTS:** Out of 338 registered melanoma patients, 35 were eligible and included in this chart review. The median overall survival time (OS) in all patients was 6.2 months. 88.6% (n=31) of patients were treated by systemic treatment(s) of which 17% (n=6) received up to 4 different treatment lines. Ten patients received "new drugs": ipilimumab (1 to 4 cycles): 10; vemurafenib: 2. Fifty-six (41%) of the 137 hospitalizations were for treatment administration. The mean overall cost per patient was €43,429 (bootstrap 95% CI: 33,372 - 54,351), of which € 42,367 (95%CI: 32,481 - 52,976) was reimbursed. The PHCP cost was driven by systemic treatments costs (46% of cost). Mean PHCP cost was € 87,468 (95 % CI: 77,372-97,307) for patients treated with "new drugs" versus € 24,327 (95 % CI: 18,617 - 30,634) for patients not treated with "new drugs". Median OS was 9 and 4.9 months, respectively. **CONCLUSIONS:** Management of uMM results in considerable costs for the PHCP, mainly driven by systemic treatment costs.

PCN66

MANAGEMENT COSTS OF THE FIRST FIVE YEARS AFTER DIAGNOSIS IN BREAST CANCER BY STAGE IN FRANCE

Atsou K[1], Bardoulat I[1], Colin X[1], Lemasson H[1], Ricarte C[2], Maurel F[2], Ajjouri R[3], Lançon F[3]

[1]*IMS Health, La Défense Cedex, France,* [2]*IMS Health, La Défense, France,* [3]*Institut National du Cancer, Boulogne Billancourt cedex, France*

OBJECTIVES: Few recent data are available on breast cancer treatment costs, especially by stage of the disease at diagnosis. This study was designed to estimate the management costs in breast cancer for the first 5-year period following diagnosis. Costs have been distinguished by stage of severity. **METHODS:** A patient-level analysis was performed from a French physician survey database, collecting data on patient demographics, cancer history from diagnosis and treatment patterns. Data were extracted for all breast cancer cases with at least 1 year of follow-up after diagnosis using data collected from 2011 to 2012. Cost analyses were conducted from a health care payers' perspective adjusting for stage (stages I-IV) at diagnosis and year from diagnosis. **RESULTS:** A total of 1,157 patients were included in the analysis. The stages at diagnosis distribution was respectively from stage I to IV 29.7%, 39.2%, 15.0% and 16.1%. The mean (SD) age at inclusion was 62.5 (12.4) and the mean (SD) time from diagnosis was 5.0 years (5.1). The mean annual cost (SD) over the 5-year period after diagnosis was ranging from 4,293€ (9,526€) for stage I to 12,111€ (19,070€) for stage IV. The mean (SD) annual costs for the 1st year after diagnosis were estimated at 11,647€ (9,883€), 13,226€ (11,575€), 17,254€ (14,535€) and 24,003€ (24,888€), respectively for stage I to IV at diagnosis. The main cost contributors in early stages were radiotherapy and surgery while cytotoxic treatments, hormonotherapy and supportive care droved it for the late stage. The mean annual costs for the following years after diagnosis (2nd to 5thyear) decreased, ranging from 1,827€ (8,964€) for Stage I to 5,370€ (10,662€) for stage IV. **CONCLUSIONS:** : The mean annual cost was strongly related to the clinical stage at diagnosis and the year from diagnosis. These estimates could be useful to populate models that explore impact of treating and preventing breast cancer.

PCN67

THE HUMANISTIC AND ECONOMIC BURDEN OF VENOUS THROMBOEMBOLISM IN CANCER PATIENTS: A SYSTEMATIC REVIEW

Kourlaba G[1], Relakis J[2], Kontodimas S[3], Holm MV[4], Maniadakis N[2]

[1]*National and Kapodistrian University of Athens School of Medicine, Athens, Greece,* [2]*National School of Public Health, Athens, Greece,* [3]*LEO Pharmaceutical Hellas S.A., Athens, Greece,* [4]*LEO PHARMA, Copenhagen Area, Denmark*

OBJECTIVES: To systematically review the humanistic and economic burden of cancer-related venous thromboembolism (VTE). **METHODS:** A literature search was carried out on Pubmed, Cochrane Central Register of Controlled Trials, Econlit, Science Direct, JSTOR, Oxford Journals and Cambridge Journals. The search was limited to humanistic studies published from January 2000 to December 2012. Additional studies were also identified by searching reference lists of relevant published reviews and included studies. The identified studies were independently reviewed by two reviewers against pre-determined inclusion and exclusion criteria. A quality assessment of the selected studies was also conducted by using standard methods . The data of selected studies were extracted onto a data extraction form and consequently synthesized. **RESULTS:** Fifty five studies were included in our review. It was found that cancer patients experience between 2-fold and 20-fold higher risk of developing VTE in comparison to non-cancer patients. Cancer patients are more likely to experience a VTE event in the first 3 or 6 months after cancer diagnosis and the onset of chemotherapy. Additionally, an increased risk of VTE in patients with distant metastases and certain types of cancer (i.e. pancreatic or lung) was identified. VTE strongly affects the prognosis of cancer patients as it has been found that it is a leading cause of death in this group of patients. The annual average total cost for cancer patients with VTE was found to be almost 50% higher compared to that of cancer patients without VTE